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JENKINS, WILSON & TAYLOR, P. A.
3100 TOWER BLVD
SUITE 1400
DURHAM, NC 27707

EXAMINER	
EPPERSON, JON D	

ART UNIT	PAPER NUMBER
1639	

DATE MAILED: 04/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/879,279	DACE ET AL	
	Examiner	Art Unit	
	Jon D. Epperson	1639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 November 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24 and 31* is/are pending in the application.

4a) Of the above claim(s) *9,10,16,17 and 31* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8, 12-15 and 18-24* is/are rejected.

7)☒ Claim(s) *11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☒ Other: *Initialed 11/17/04 1.131*.

DETAILED ACTION

Status of the Application

1. The Response filed November 27, 2004 is acknowledged.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Status of the Claims

3. Claims 1-31 were pending. Applicants canceled claims 25-30 and amended claims 111, 22 and 24. Therefore, claims 1-24 and 31 are currently pending. In addition, Claims 9, 10, 16, 17 and 31 are drawn to non-elected species and/or inventions and thus these claims remain withdrawn from further consideration by the examiner, 37 CFR 1.142(b), there being no allowable generic claim (e.g., see Response to ***Restriction and/or Election of Species*** below).

Response to Restriction and/or Election of Species

4. Applicants argue **[1]** that claim 22 should be reinstated to pending status because the claim has been amended to include their elected "streptavidin" species (e.g., see 11/17/04 Response, page 8, ***Restriction and Election of Species*** section, paragraph 2) and **[2]** that claim 31 should also be re-instated because the claim does not limit the LNA to only the first G.

5. These arguments have been fully considered and were found persuasive in part. Claim 22 is hereby reinstated (i.e., the species election with regard to claim 22 is withdrawn) in light of Applicants' amendments to the claim. However, the Examiner respectfully disagrees with regard

to claim 31. Claim 31 does not read on the elected species as purported because Applicants amended their elected species to include a modified oligonucleotide wherein "ALL the nucleotides are LNA, and NOT that just the first G in LNA" (e.g., compare see 1/22/2004 Response, page 6, last paragraph to claim 31). Applicants' current interpretation of claim 31 is not consistent with the expressed claim language in the claim (e.g., see 11/17/04 Response, paragraph bridging pages 8-9). For example, claim 31 states in pertinent part, "wherein the LNA occurs on the first G" and thus makes no reference to an LNA at any other position. In support of this position the Examiner notes (1) Applicants claim does not use "comprising" terminology that would indicate multiple permissible substitutions, (2) only the singular form of the oligonucleotide conjugate is used (e.g., "3 biotinylated $(GT)_6$-5' bicyclic structure") instead of the plural form that would indicate multiple permissible substitutions (e.g., "3 biotinylated $(GT)_6$-5' bicyclic structures") and (3) the claim also uses the singular form of LNA indicating only one substitution (e.g., the LNA occurs) instead of the plural form (e.g., the LNAs occur). Thus, Applicants' interpretation of the claim is not justified because it is not consistent with the expressed claim language.

Withdrawn Objections/Rejections

6. The rejections under 35 U.S.C. 112, second paragraph are withdrawn in view of Applicants' arguments and/or amendments. The Obviousness-Type Double Patenting Rejection is withdrawn in view of Applicants' Terminal Disclaimer. All other rejections are maintained and the arguments are addressed below.

Outstanding Objections and/or Rejections

Claims Rejections - 35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-8, 12-15, 18-22, 23-24 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jakobsen et al. (US Pub. No. 2003/0077609 A1) (Priority to 60/278,598, filed on **March 25, 2001**) and Cregan et al. (Cregan, P.B.; Mudge, J.; Fickus, E.W.; Marek, L.F.; Danesh, D.; Denny, R.; Shoemaker, R.C.; Matthews, B.F.; Jarvik, T.; Young, N.D. "Targeted Isolation of Simple Sequence Repeat Markers through the use of Bacterial Artificial Chromosomes" *Theor. Appl. Genet.* **1999**, *98*, 919-928) and Sambrook et al. (Sambrook J. and Russell, D.W. Molecular Cloning: A laboratory Manual. New York: Cold Spring Harbor

Laboratory. **January 15, 2001**, Vol. 2, pages 11.35 and 11.98-11.106) and Brown (Brown, T.A. Genomes. New York: John Wiley & Sons, Inc. **1999**, pages 18-23 and 136-137).

For ***claim 1***, Jakobsen et al. (see entire document) disclose methods for using modified "locked nucleic acids" (LNAs) for "the isolation, purification, amplification, detection, identification, quantification, or capture of nucleic acids" including applications in gene mapping and/or genotyping (e.g., see Jakobsen et al., abstract; see also page 4, paragraph 43, see also page 6, paragraph 63), which reads on the elected invention. For example, Jakobsen et al. disclose providing one or more modified oligonucleotide conjugates, wherein each of the modified oligonucleotide conjugates comprises at least one locked nucleic acid and a linking molecule (e.g., see Jakobsen et al., paragraph 14 wherein LNAs are disclosed; see also paragraph 49 wherein Applicants' elected "biotin" species is disclosed; see especially page 7, Example 2, see also paragraph 76; see also paragraphs 53-63). In addition, Jakobsen et al. disclose incubating a sample of nucleic acids with the modified oligonucleotide conjugates, thereby forming one or more hybridized duplexes (e.g., see Jakobsen et al., page 7, Example 2 wherein the "locked" modified oligonucleotide conjugates were used to "hybridize" to a sample of 5' biotin-labeled 50-mer or 30-mer oligonucleotide, each encompassing 1 to 5 SNPs [single nucleotide polymorphisms] for SNP genotyping; see also page 6, paragraph 55, "In a further aspect, oligonucleotides of the invention may be used to construct new affinity pairs ... The affinity pairs may be used in ... capture and detection of a diversity of the target molecules"; see also paragraph 63, "Assay using an immobilized array of nucleic

acid sequences may be used for determining the sequence of an unknown nucleic acid; single nucleotide polymorphism (SNP) analysis; analysis of gene expression patterns from a particular species, tissue, cell type, etc.; gene identification"). Jakobsen et al. further disclose contacting substantially all of the hybridized duplexes with a linking source, such that the linking molecule of each duplex that contacts the linking source forms a bond with the linking source (e.g., see page 7, Example 2, especially paragraph 76 wherein Applicants' elected "streptavidin" species is disclosed). Finally, Jakobsen et al. disclose separating substantially all of the hybridized duplexes from the sample of nucleic acids (e.g., see page 7, Example 2, especially washing steps).

For ***claim 7***, Jakobsen et al. do not explicitly state that an "A" helix is formed but the Examiner contends that an "A" helix must inherently be formed because Jakobsen et al. use the same LNAs for hybridization as are claimed by Applicants (e.g., see page 4, paragraph 39 of Applicants' specification which states that the use of a LNA will produce an "A" helix. No other reaction conditions are discussed for forming an "A" helix). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). The Office does not have the facilities to make such a comparison and the burden is on the applicants to establish the difference. See *In re Best,* 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and *Ex parte Gray*, 10 USPQ 2d 1922 1923 (PTO Bd. Pat. App. & Int.).

For ***claim 18***, Jakobsen et al. disclose complementary sequences (e.g., see Jakobsen et al., page 1, paragraph 11; see also page 7, Example 2, paragraph 75).

For ***claim 19***, Jakobsen et al. disclose biotin bound to 5' end (e.g., page 7, Example 2, paragraph 76; see also page 3, column 1, paragraph 28; see also page 5, paragraph, column 1, paragraph 49).

For ***claim 20***, Jakobsen et al. disclose biotin (e.g., see page 7, Example 2, paragraph 76).

For ***claim 22***, Jakobsen et al. disclose streptavidin (e.g., see page 7, Example 2, paragraph 76).

The prior art teachings of Jakobsen et al. differ from the claimed invention as follows:

For ***claims 1-2, 18 and 24***, the Jakobsen et al. reference is deficient in that it does not specifically recite the use of "simple sequence repeat" (SSR) target molecules. Although, Jakobsen et al. teach the use of target molecules like SNPs as physical markers in gene mapping and/or genotyping experiments (e.g., see page 7, Example 2; see also page 6, paragraph 63), Jakobsen et al. fail to explicitly refer to other types of physical markers like SSR target molecules. In addition, Jakobsen et al. fail to teach the use of "extraction" techniques including the application of streptavidin-coated magnetic beads. Jakobsen et al. only teach the use of biotin/streptavidin in conjunction with microarray slides (e.g., see page 7, Example 2).

For ***claim 3***, Jakobsen et al. fail to teach the use of SSR portion comprising 1, 2, 3 or 4 base repeats.

For ***claims 4-6***, Jakobsen et al. fail to teach the use of alkaline buffer for the dissociation of the target molecule in the range of pH 9-10.

For ***claim 8***, Jakobsen et al. fail to teach the formation of a new library that is enriched in the targeted SSRs.

For ***claims 12-15***, Jakobsen et al. fail to teach double stranded circular DNA plasmid libraries.

For ***claim 21***, Jakobsen et al. fail to teach streptavidin-coated beads.

For ***claim 23***, Jakobsen et al. fail to teach the use of a magnet.

For ***claim 24***, Jakobsen et al., fails to teach the use of streptavidin-coated magnetic beads, incubating at pH of around 9.5 for dissociation, transforming the simple sequences into *E. coli* and sequencing the repeats.

However, the combined references of Cregan et al. Sambrook et al. and Brown teach the following limitations that are deficient in Jakobsen et al.:

For ***claims 1-2 and 24***, the combined references of Cregan et al., Sambrook et al., and Brown (see entire documents) teach the use of SSRs as target molecules (e.g., see Cregan et al., abstract; see also Brown, page 136, "Mini- and microsatellites" section). Furthermore, the use of "extraction" techniques including the application of streptavidin-coated magnetic beads is also taught (e.g., see Sambrook et al., page 11.99, figure 11-20).

For ***claim 3***, the combined references of Cregan et al., Sambrook et al., and Brown also teach the use of SSR portion comprising 1, 2, 3, or 4 base repeats (e.g., see Brown, page 136, column 2, last paragraph wherein CACACACACACACACA is exemplified i.e., a "2 base repeat"; see also Cregan et al., page 919, column 2, last paragraph wherein CA, ATT and ATGT are disclosed i.e., 2, 3 and 4 base repeats).

For ***claims 4-6***, the combined references of Cregan et al., Sambrook et al., and Brown teach the use of alkaline buffer to dissociate the target molecules (e.g., see page 11.104, step 13 a-b). The combined references do not explicitly teach the use of pH = 9-10, but they do teach the addition of a strong base (i.e., 0.1 M NaOH, pH = 13), which would be expected to produce pH ranges between 9-10 when combined with other more acidic components (e.g., the sample and/or sample buffer i.e., pH < 9-10). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). The Office does not have the facilities to make such a comparison and the burden is on the applicants to establish the difference. See *In re Best,* 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and *Ex parte Gray*, 10 USPQ 2d 1922 1923 (PTO Bd. Pat. App. & Int.).

For ***claim 8***, the combined references of Cregan et al., Sambrook et al., and Brown teach the formation of a new library enriched in SSRs (e.g., see Cregan et al., page 921, middle paragraph, "Selected colonies were picked onto microtiter plates followed by two additional cycles of screening and purification"; see also Sambrook et al., page 11.98, paragraphs 2-3).

For ***claims 12-15***, the combined references of Cregan et al., Sambrook et al., and Brown teach double stranded circular DNA plasmid libraries (e.g., see Cregan et al., page 921, middle paragraph; see also Sambrook et al., figure 11-20).

For ***claim 21***, the combined references of Cregan et al., Sambrook et al., and Brown teach streptavidin-coated beads (e.g., see Sambrook et al., page 11.99, figure 11-20).

For ***claim 23***, the combined references of Cregan et al., Sambrook et al., and Brown teach the use of streptavidin-coated paramagnetic beads (e.g., see Sambrook et al., page 11.99, figure 11-20).

For ***claim 24***, the combined references of Cregan et al., Sambrook et al., and Brown teach the use of streptavidin-coated magnetic beads (e.g., see Sambrook et al., page 11.99, figure 11-20), incubating at pH of around 9.5 for dissociation (see section for ***claims 4-6*** above), transforming the simple sequences into *E. coli* (e.g., see Cregan et al., page 921, paragraph 1) and sequencing the repeats (e.g., see Cregan et al., page 921, last paragraph).

It would have been obvious to one skilled in the art at the time the invention was made to capture "simple sequence repeats" (SSRs) via "streptavidin-coated magnetic beads" as taught by the combined references of Cregan et al., Sambrook et al., and Brown using "locked nucleic acids" (LNAs) as taught by Jakobsen et al. because Jakobsen et al. teach that LNAs possess enhanced specificity/affinity for target sequences and thus can be used to improve all hybridization reactions and specifically point to the PCR based characterization of physical markers commonly used in gene mapping and/or genotyping experiments (e.g., see Jakobsen et al., page 6, paragraph 63; see especially page 7, Example 2), which would encompass the physical markers exemplified by the combined references of Cregan et al., Sambrook et al., and Brown (i.e., the references represent

analogous art because "simple sequence repeats" (SSR) and "single nucleotide polymorphisms" (SNP) markers are both PCR-based, co-dominant and abundant molecular markers from eukaryotic genomes that are being widely used in genetic mapping, phylogenetic studies and marker-assisted selection) (e.g., see Brown, pages 18-22 for background information on the use of SNPs and SSRs). In addition, Cregan et al. state that the bacterial artificial chromosomes (BACs) used to isolate SSR markers "can readily be extended to other types of DNA markers, including single nucleotide polymorphisms [i.e., SNPs]" (e.g., see Cregan et al., page 919, column 2, paragraph 1), which would encompass the SNPs disclosed by Jakobsen et al. A person of skill in the art would have been motivated to use the LNAs to search for SSRs because Cregan et al. state that LNAs provide "enhanced hybridization and [PCR] priming properties" (e.g., see Cregan et al., page 1, paragraph 10; see also page 1, paragraph 11 wherein beneficial PCR results are also disclosed), which would increase the efficiency of searching for the SSRs (just as they do for SNPs) because the SSRs represent PCR-based markers that require hybridization and PCR priming (e.g., see Cregan et al., page 919, column 2, last paragraph). Furthermore, SSRs represent a "preferred embodiment" of physical markers for gene mapping and/or genotyping (e.g., see Cregan et al., page 919, column 2, last paragraph, "The high level of informativeness and co-dominance of microsatellite markers, their widespread occurrence in eukaryotic genomes, and easy amplification via standard PCR technology, make SSR the current marker of choice [i.e., a preferred embodiment] in many species"; see also Brown, page 21, column 1, "Microsatellites [SSRs] are more popular ... [because they] are more conveniently spaced through the

genome. Second, the quickest way to type a length polymorphism is by PCR, but PCR typing is much quicker and more accurate with sequences less than 300 bp in length [i.e., SSRs]; see also page 21, column 2, wherein the drawbacks of SNPs are outlines e.g., they have only two alleles; see also pages 136-137, "Mini- and microsatellites" section). Furthermore, one of ordinary skill in the art would have reasonably expected to be successful because Cregan et al. state that their BAC technology will work with both SNPs and SSRs and Sambrook et al. state that their streptavidin-coated magnetic beads are particularly well suited for selecting large genomic DNA clones using BACs (see Cregan et al., page 919, column 2, paragraph 1, "This targeted approach to identifying new DNA markers [i.e., SSRs] can readily be extended to ... single nucleotide polymorphisms"; see also Sambrook et al., page 11.98-11.100, especially figure 11-20).

Response

9. Applicant's arguments directed to the above 35 U.S.C. § 103(a) rejection were fully considered (and are incorporated in their entirety herein by reference) but were not deemed persuasive for the following reasons. Please note that the above rejection has been modified from it original version to more clearly address applicants' newly amended and/or added claims and/or arguments.

Applicants argue, "Jakobsen et al. cannot properly be relied upon as a prior art reference [in view of Applicants' 37 CFR § 1.131 declaration] ... [and] None of the remaining references ... teach, alone or in combination, the use of LNAs for the capture of target SSRs" (e.g., see 11/17/04 Response, pages 12-14).

This is not found persuasive for the following reasons:

The Examiner contends that Applicants' 37 CFR § 1.131 declaration is defective and, as a result, Applicants' arguments are moot. The declaration is defective because **[1]** it does not contain a signature from all of the inventors as required by MPEP § 715.04, **[2]** the rule requires an averment that the invention was made in the United States, a NAFTA country or a WTO country, which has not been set forth, **[3]** Applicants have not met their burden of explaining the how the laboratory notebook shows proof of acts amounting to conception, diligence and reduction to practice (e.g., see MPEP § 715.07, "The affidavit or declaration and exhibits must ***clearly explain which facts or data applicant is relying on to show completion of his or her invention prior to the particular date***. Vague and general statements in broad terms about what the exhibits describe along with a general assertion that the exhibits describe a reduction to practice "amounts essentially to mere pleading, unsupported by proof or a showing of facts" and, thus, does not satisfy the requirements of 37 CFR 1.131(b). In re Borkowski, 505 F.2d 713, 184 USPQ 29 (CCPA 1974). Applicant must give a clear explanation of the exhibits pointing out exactly what facts are established and relied on by applicant. 505 F.2d at 718-19, 184 USPQ at 33. See also In re Harry, 333 F.2d 920, 142 USPQ 164 (CCPA 1964) (Affidavit "asserts that facts exist but does not tell what they are or when they occurred."). Here, Applicants merely state, "Exhibit A provides evidence of the subject matter embodied in the pending claims and predates the earliest claimed priority date" (e.g., see 37 C.F.R. § 1.131 Declaration, page 2). This statement does not clearly explain which facts or data show completion of the invention prior to the particular date because it does not point to and/or explain anything that is presented in exhibit A. In fact, the declaration never even states that Exhibit A represents completion of

the invention prior to the particular date (e.g., the declaration only states that "subject matter [is] embodied" by exhibit A), **[4]** the evidence submitted is insufficient to establish a date prior to the date U.S. Pat. Applic. No. 2003/0077609 A1 (referred to herein as '609) because Applicants have not set forth enough "facts" and/or "evidence" to corroborate such a date (e.g., see MPEP § 715.07, "The essential thing to be shown under 37 CFR 1.131 is priority of invention and this may be done by any satisfactory evidence of the facts. FACTS, not conclusions, must be alleged. Evidence in the form of exhibits may accompany the affidavit or declaration. Each exhibit relied upon should be specifically referred to in the affidavit or declaration, in terms of what it is relied upon to show). Here, the Examiner finds no facts and/or evidence to support the claim that an in vitro method for capturing one or more target simple sequence repeats was ever performed prior to '609. No evidence (e.g., NMR, mass spectrometry, sequencing data, melting curves, etc.) exists for the isolation of a simple sequence repeat using a modified oligonucleotide conjugate and **[5]** even if, *assuming arguendo*, the notebooks did somehow support Applicants' contentions of prior invention, the Examiner contends that the notebook pages are not commensurate in scope with the claims. For example, TORREY-1 and TORREY-2 (e.g., see Exhibit A, page 1) are not representative of the broad scope of oligonucleotide conjugates currently being claimed because the biotin is not representative of any linking molecule such as antibody, immunoglobulin, carbohydrate). Furthermore, there is no evidence that these molecules were ever used in an in vitro method to capture one or more target simple sequence repeats as currently claimed.

Accordingly, the 35 U.S.C. § 103(a) rejection cited above is hereby maintained.

New Rejections and/or Objections

10. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Applicant's amendment necessitated any new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon D Epperson whose telephone number is (571) 272-0808. The examiner can normally be reached Monday-Friday from 9:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on (571) 272-0811. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jon D. Epperson, Ph.D.
April 3, 2005